REMARKS

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

I. Applicants' Prior Response

Applicants acknowledge with appreciation the Examiner's statement that Applicants' prior remarks are persuasive and previous rejections of record are overcome.

II. The Rejection of Claims 6, 8, 10 and 13 under 35 U.S.C. 103

Claims 6, 8, 10 and 13 stand rejected under 35 U.S.C. 103 as allegedly being unpatentable over Ohta et al., USPN 4,478,866 ("R1") in view of Petersen et al. "A rapid phospholipase D assay using zirconium precipitation of anionic substrate phospholipids: Application to N-acylethanolamine formation in vitro," J. Lipid Research, 41, 1532-1538 (2000) ("R2"). The Examiner outlines various teachings of the R1 and R2 references and concludes:

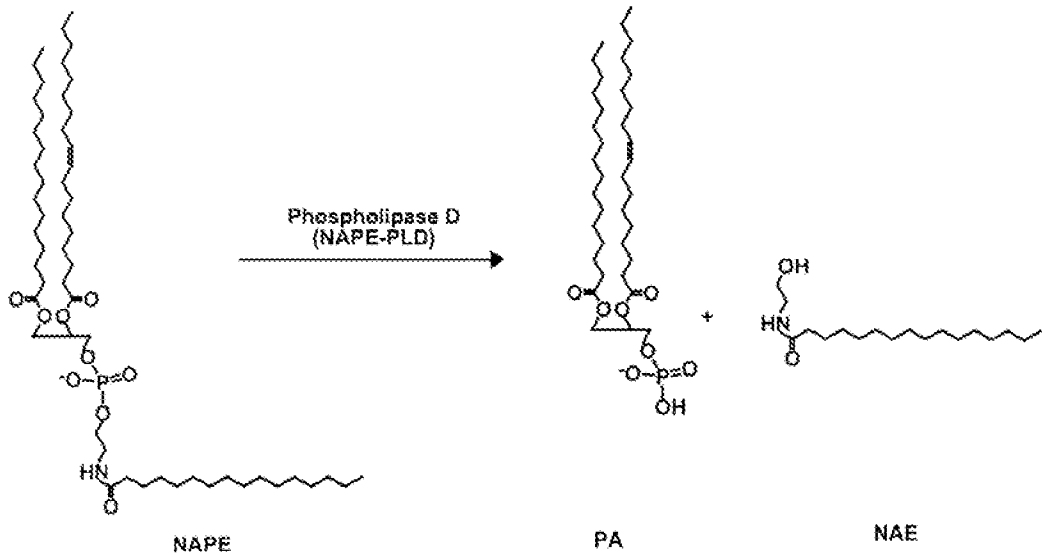
> 10. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use phospholipase D for baking as taught by R1 and assay and select a NAPE specific phospholipase D as taught by R2. One would do so to cause a selective hydrolysis of natural N-acylphosphatidyl ethanolamine in wheat flour and take advantage of the emulsifying properties of the resulting phosphatidic acid. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in assaying and selecting a NAPE specific phospholipase D to be used in baking bread.

Office Action, pages 3-4. This rejection is respectfully traversed.

As the Examiner correctly notes, R1 teaches that lysophosphatidic acid and its salts possess advantageous properties as emulsifiers for use in foodstuffs and in particular for making dough and for use in the production of farinaceous products. R1, Abstract. R1 also discloses the various hydrolysis products of, e.g., soybean lecithin, when treated with phospholipase D and/or phospholipase A. R1, col. 4 generally.

R2 is directed to an assay for the detection of N-acylphosphatidylethanolamine-hydrolyzing phospholipase D activity. R2, Abstract. Although N-acylphosphatidyl ethanolamine is

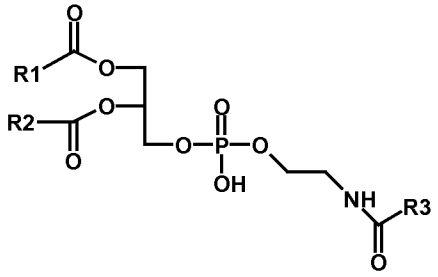
referred to in R2 as “NAPE,” this substrate is referred to in the instant application as “APE.” Phospholipase D cleaves after the phosphate group of NAPE/APE, resulting in the formation of phosphatidic acid (“PA”) and an alcohol, N-acylethanolamine (“NAE”). R2, Figure 1, reproduced below.



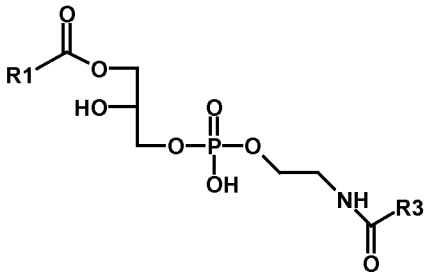
R2 is silent as to baking additives.

In contrast, Applicants’ claims are directed to a method of selecting a lipolytic enzyme for use as a baking additive comprising incubating at least one lipolytic enzyme with N-acyl phosphatidyl ethanolamine (APE) or N-acyl lysophosphatidyl ethanolamine (ALPE), b) detecting hydrolysis of an ester bond in the APE or ALPE, c) incubating the at least one lipolytic enzyme with phosphatidyl choline (PC), d) detecting hydrolysis of an ester bond in the PC, and e) selecting a lipolytic enzyme which has a higher hydrolytic activity on ester bonds in the APE or ALPE than on ester bonds in the PC.

In particular, the lipolytic activity to be screened according to the instant claims is directed to cleavage of the ester bonds of APE, as well as ALPE (of which, Applicants respectfully submit, R2 is silent). Applicants direct the Examiner’s attention to the chemical formulae and subsequent description beginning at page 2, line 12 of the instant specification as filed, i.e.:



APE



ALPE

As set forth in the specification, the lipolytic enzyme activity of interest acts to hydrolyze an ester bond in APE or ALPE. Upon reacting with an ester bond, either one or two fatty acids R_1-COOH and/or R_2-COOH are liberated. See, specification page 2, line 23-27. Cleavage releases a fatty acid, but the phosphoryl-ethanolamine portion of the molecule is maintained.

Moreover, as set forth in the specification as filed, evaluation of full-scale baking tests generally requires a major effort for isolating and producing each enzyme in sufficient quantity. Page 1, lines 9-11. In contrast to what was known in the art, the present inventors have developed a method of screening lipolytic enzymes to identify candidates for a baking additive which can improve the properties of a baked product when added to the dough. Page 1, lines 20-22. Lipolytic enzyme candidates selected according to the claimed screening methods can then be used in full-scale baking tests for further evaluation. Page 1, lines 9-11.

Nowhere does R1 teach or suggest the screening methods of Applicants' claims, and in particular, nowhere does R1 teach or suggest the selection of a lipolytic enzyme which has a higher hydrolytic activity on ester bonds in the APE or ALPE than on ester bonds in the PC.

Neither does R2 teach or suggest the claimed screening methods. Nowhere does R2 teach or suggest the selection of a lipolytic enzyme which has a higher hydrolytic activity on ester bonds in the APE or ALPE than on ester bonds in the PC. In fact, as made clear in Figure 1 of R2, phospholipase D cleaves after the phosphate group, rather than on an ester bond as is required according to the pending claims.

Thus, neither R1 nor R2, either alone or in combination, teach or suggest Applicants' claimed methods.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 103. Applicants respectfully request reconsideration and withdrawal of the rejection.

III. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to

contact the undersigned by telephone if there are any questions concerning this amendment or application.

All required fees were charged to Novozymes North America, Inc.'s Deposit Account No. 50-1701 at the time of electronic filing. The USPTO is authorized to charge this Deposit Account should any additional fees be due.

Respectfully submitted,

Date: March 12, 2010

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